



Expert Workshop: Nutrient Enrichment Indicators in Streams April 16–18, 2013

Background

The U.S. Environmental Protection Agency (EPA) will host an expert workshop, *Nutrient Enrichment Indicators in Streams*, on April 16–18, 2013 in Washington, DC. The workshop will focus on sensitive and early response indicators of nutrient (nitrogen and phosphorus) enrichment in freshwater flowing systems, such as rivers and streams. EPA seeks participants with knowledge of and experience in the field of stream ecosystems. This workshop is sponsored by the EPA's Office of Water, Office of Science and Technology (OST) in conjunction with the Office of Research and Development. OST manages EPA's National Nutrient Criteria Program, which provides scientific and technical support to State water quality managers in the development of numeric nutrient criteria. Water quality criteria are one component of State water quality standards, and criteria provide a basis for assessing water quality, limiting pollution discharge, and restoring impaired waters.

EPA has a longstanding commitment to using the best available data to the fullest extent to characterize adverse environmental effects of pollutants. Excess loading of nitrogen and phosphorus to surface water bodies and groundwater is widely recognized as one of the leading causes of water quality impairments in the United States. The problem extends to both fresh and marine waters, leading to over 15,000 nutrient pollution-related impairments in 49 states. It is well understood that accelerated eutrophication resulting from excess nutrients causes changes in plant and animal life. However, some believe that although measurable changes occur with increasing nutrient concentrations, the relationships are complex and that it is, therefore, important to "confirm" expected adverse effects of elevated nitrogen and phosphorus concentrations with biological measures. EPA's challenge is to align that need with the Clean Water Act objectives to take action to prevent eutrophication before designated uses are impaired and to restore already impaired waterbodies.

Objectives

The primary objective of this workshop is to identify sensitive and early indicators, biological and chemical, of nutrient pollution in streams and to describe how those indicators alone, or in combination with other indicators, could be used to more precisely specify nutrient criteria to protect aquatic life from the harmful effects of nutrient enrichment and restore impaired waters. Participants will also explore technical options to integrate these sensitive indicators into numeric nutrient criteria development and implementation (e.g., monitoring requirements, index period, and spatial coverage). The workshop will focus on the scientific understanding of sensitive indicators of nutrient pollution in streams, rather than on any existing or future regulatory policy. The workshop proceedings will be peer reviewed and published.

Format

A detailed agenda for this meeting is still under development, but the anticipated workshop format will include plenary presentations covering areas of relevant research, discussion sessions focused on a

series of targeted questions, and writing sessions to document the responses to those questions. Workshop participants will be asked to present overviews of their research, to participate in technical discussions, and to assist in writing a technical document reflecting the outcomes of the workshop.

Pre-workshop Webinars

In preparation for the workshop, EPA will host a series of hour-long webinars for workshop participants in February 2013. During these webinars EPA staff will provide additional background information for participants on the workshop and will respond to questions.

Questions?

If you have any questions about workshop content, please contact EPA's Brannon Walsh at walsh.brannon@epa.gov or (202) 566-1118. For questions about logistics, please contact Clair Meehan at Tetra Tech (EPA's contractor) at clair.meehan@tetratech.com or (508)734-5513.